

0145P34US01

**Amendments to the Claims:**

This listing of claims will replace all prior versions, and listing, of claims in the application:

**Listing of Claims:**

1. (currently amended) A sensor array forming part of an intrusion detection system and having a plurality of discrete volumetric sensors each having an associated volumetric intrusion detection field extending therefrom and constructed and arranged to generate a response to an intruder entering its detection field, the sensor array comprising:  
a plurality of sensor nodes each having at least one volumetric sensor and having a detection zone defined by the effective detection fields of its constituent sensors as constructed and arranged in each sensor node, at least one of the sensor nodes having at least two volumetric sensors; and  
an array processor coupled to each sensor node for generating information based on processing of the response generated from the detection zone of each sensor node;  
~~— (i) at least one sensor node, each sensor node having a longitudinal axis and providing a detection zone defined by a plane extending transversely to the longitudinal axis, and having at least one discrete sensor for generating a response to an intruder entering the detection zone of the sensor node; and~~  
~~(ii) an array processor for generating information based on processing of each response, the array processor being coupled to each of the sensor nodes.~~
2. (cancelled)
3. (cancelled)
4. (currently amended) The sensor array according to claim 21, wherein each discrete volumetric sensor is selected from at least one member of the group consisting of: microwave modules, ultrasonic transducers, passive IR sensors, and active reflective IR sensors.

0145P34US01

5. (currently amended) The sensor array according to claim 21, wherein the sensor array includes a distribution point for connecting a means for providing power, the distribution point being coupled to the array processor and each sensor node.
6. (currently amended) The sensor array according to claim 21, wherein each sensor node is encased within and spaced along a deformable cable.
7. (currently amended) The sensor array according to claim 21, wherein the sensor array is encased within an elongated housing.
8. (currently amended) The sensor array according to claim 21, wherein each sensor node is formed as an integrated circuit.
9. (currently amended) The sensor array according to claim 21, wherein at least two of the detection zones overlap.
10. (currently amended) The sensor array according to claim 21, wherein at least two of the detection zones abut.
11. (cancelled)
12. (currently amended) The sensor array according to claim 21, wherein adjacent sensor nodes of the ~~at least two~~plurality of sensor nodes are spaced apart along the sensor array, and wherein the space between adjacent sensor nodes has a predetermined range based upon a span of each detection zone.
13. (currently amended) The sensor array according to claim 21, wherein adjacent sensor nodes of the ~~at least two~~plurality of sensor nodes are spaced apart along the sensor array, and wherein the space between adjacent sensor nodes has a predetermined range based upon a distance to be detected.

0145P34US01

14. (currently amended) The sensor array according to claim ~~21~~, wherein adjacent sensor nodes of the ~~at least two~~plurality of sensor nodes are spaced apart along the sensor array, and wherein the space between adjacent sensor nodes has a range of 0.25-20.0 meters.

15. (currently amended) A sensor array forming part of an intrusion detection system and having a plurality of discrete volumetric sensors each having an associated volumetric intrusion detection field extending therefrom and constructed and arranged to generate a response to an intruder entering its detection field, the sensor array comprising:

(i) a plurality of sensor nodes each sensor node having at least one volumetric sensor and having a detection zone defined by the effective detection fields of its constituent sensors as constructed and arranged in each sensor node, at least one of the sensor nodes having at least two volumetric sensors~~at least one sensor node, each sensor node having a longitudinal axis and providing a detection zone defined by a plane extending transversely to the longitudinal axis of the sensor array, and each sensor node~~ having:

~~(a) at least one discrete sensor for generating a response to an intruder entering the detection zone of the sensor node; and~~

~~(b) a node processor for generating an alarm disturbance signature based on the response generated by each volumetric sensor of the sensor node, the node processor being coupled to each volumetric sensor; and~~

(ii) an array processor for generating information based on the alarm disturbance signature received from each node processor, the array processor being coupled to the node processor of each sensor node.

16. (cancelled)

17. (currently amended) The sensor array according to claim ~~16~~15, wherein each discrete volumetric sensor is selected from at least one member of the group consisting

0145P34US01

of: microwave modules, ultrasonic transducers, passive IR sensors, and active reflective IR sensors.

18. (currently amended) An intrusion detection system comprising:

(I) at least one sensor array having a plurality of discrete volumetric sensors each having an associated volumetric intrusion detection field extending therefrom and constructed and arranged to generate a response to an intruder entering its detection field, the system having:

\_\_\_\_\_ (i) a plurality of sensor nodes each sensor node having at least one volumetric sensor and having a detection zone defined by the effective detection fields of its constituent sensors as constructed and arranged in each sensor node, at least one of the sensor nodes having at least two volumetric sensors, and each sensor node having a node processor for generating an alarm disturbance signature based on the response generated each volumetric sensor of the sensor node, the node processor being coupled to each volumetric sensor; and

\_\_\_\_\_ (ii) an array processor for generating information based on the alarm disturbance signature received from each node processor, the array processor being coupled to the node processor of each sensor node  
~~at least one sensor node, each sensor node having a longitudinal axis and providing a detection zone defined by a plane extending transversely to the longitudinal axis, and having:~~

~~\_\_\_\_\_ (a) at least one discrete sensor for generating a response to an intruder entering the detection zone of the sensor node; and~~

~~(b) a node processor for generating alarm disturbance signature based on the response received from each discrete sensor, the node processor being coupled to each discrete sensor; and~~

~~(ii) an array processor for generating information based on the alarm disturbance signature received from each node processor, the array processor being coupled to the node processor of each sensor node;~~

(II) a calibration means for adjusting the sensitivity setting of each discrete sensor; and

0145P34US01

(III) a system processor for processing the information received from the array processor and for generating an alarm condition;

wherein the calibrating system is coupled to the system controller, and wherein the system controller is coupled to each sensor array.

19. (cancelled)

20. (currently amended) An intrusion detection system according to claim ~~19~~18, wherein each discrete volumetric sensor is selected from at least one member of the group consisting of microwave modules, ultrasonic transducers, passive IR sensors, and active reflective IR sensors.

21. (new) The sensor array according to claim 1, wherein adjacent sensor nodes are spaced apart based on at least one criterion selected from the group consisting of: discrete sensor phenomenology, discrete sensor detection features, intruder type, intruder orientation, detection zones of the adjacent sensor node, and range of detection zones of the adjacent sensor nodes.

22. (new) The sensor array according to claim 15, wherein adjacent sensor nodes are spaced apart based on at least one criterion selected from the group consisting of: discrete sensor phenomenology, discrete sensor detection features, intruder type, intruder orientation, detection zones of the adjacent sensor node, and range of detection zones of the adjacent sensor nodes.

23. (new) The intrusion detection system according to claim 18, wherein adjacent sensor nodes are spaced apart based on at least one criterion selected from the group consisting of: discrete sensor phenomenology, discrete sensor detection features, intruder type, intruder orientation, detection zones of the adjacent sensor node, and range of detection zones of the adjacent sensor nodes.

0145P34US01

24. (new) The sensor array according to claim 1, wherein at least one of the sensor nodes has a discrete non-volumetric sensor.
25. (new) The sensor array according to claim 15, wherein at least one of the sensor nodes has a discrete non-volumetric sensor.
26. (new) The sensor array according to claim 18, wherein at least one the sensor nodes having has a discrete non-volumetric sensor.